

## 1.2 Specifications

- Platform**
- Micro ATX Form Factor
  - 2oz Copper PCB

- CPU**
- Supports 12<sup>th</sup> Gen Intel® Core™ Processors (LGA1700)
  - Digi Power design
  - 9 Power Phase design
  - Supports Intel® Hybrid Technology
  - Supports Intel® Turbo Boost Max 3.0 Technology

- Chipset**
- Intel® B660

- Memory**
- Dual Channel DDR4 Memory Technology
  - 4 x DDR4 DIMM Slots
  - Supports DDR4 non-ECC, un-buffered memory up to 5000+(OC)\*
- \* Supports DDR4 3200 natively.
- \* Please refer to Memory Support List on ASRock's website for more information. (<http://www.asrock.com/>)
- Supports ECC UDIMM memory modules (operate in non-ECC mode)
  - Max. capacity of system memory: 128GB
  - Supports Intel® Extreme Memory Profile (XMP) 2.0
  - 15μ Gold Contact in DIMM Slots

- Expansion Slot**
- 1 x PCIe Gen5x16 Slot\*
- \* Supports NVMe SSD as boot disks
- 2 x PCIe Gen3x1 Slots
  - 1 x M.2 Socket (Key E), supports type 2230 WiFi/BT PCIe WiFi module and Intel® CNVi (Integrated WiFi/BT)
  - 15μ Gold Contact in VGA PCIe Slot (PCIE1)

- Graphics**
- Intel® UHD Graphics Built-in Visuals and the VGA outputs can be supported only with processors which are GPU integrated.
  - Intel® X<sup>e</sup> Graphics Architecture (Gen 12)
  - Dual graphics output: support HDMI and DisplayPort 1.4 ports by independent display controllers

- Supports HDMI 2.1 TMDS Compatible with max. resolution up to 4K x 2K (4096x2160) @ 60Hz
- Supports DisplayPort 1.4 with DSC (compressed) max. resolution up to 8K (7680x4320) @ 60Hz / 5K (5120x3200) @ 120Hz
- Supports HDCP 2.3 with HDMI 2.1 TMDS Compatible and DisplayPort 1.4 Ports

### Audio

- 7.1 CH HD Audio (Realtek ALC897 Audio Codec)
- Supports Surge Protection
- Gold Audio Jacks
- Nahimic Audio

### LAN

- 2.5 Gigabit LAN 10/100/1000/2500 Mb/s
- Dragon RTL8125BG
- Supports Dragon 2.5G LAN Software
  - Smart Auto Adjust Bandwidth Control
  - Visual User Friendly UI
  - Visual Network Usage Statistics
  - Optimized Default Setting for Game, Browser, and Streaming Modes
  - User Customized Priority Control
- Supports Wake-On-LAN
- Supports Lightning/ESD Protection
- Supports Energy Efficient Ethernet 802.3az
- Supports UEFI PXE

### Rear Panel I/O

- 3 x Antenna Mounting Points
- 1 x PS/2 Mouse/Keyboard Port
- 1 x HDMI Port
- 1 x DisplayPort 1.4
- 1 x Optical SPDIF Out Port
- 4 x USB 3.2 Gen1 Ports (ASMedia ASM1074 hub) (Supports ESD Protection)
- 2 x USB 2.0 Ports (Supports ESD Protection)
- 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED)
- 1 x BIOS Flashback Button
- HD Audio Jacks: Rear Speaker / Central / Bass / Line in / Front Speaker / Microphone (Gold Audio Jacks)

## Storage

- 4 x SATA3 6.0 Gb/s Connectors\*

\* If M2\_2 is occupied by a SATA-type M.2 device, SATA3\_0 will be disabled.

- 2 x SATA3 6.0 Gb/s Connectors by ASMedia ASM1061
- 1 x Hyper M.2 Socket (M2\_1, Key M), supports type 2242/2260/2280 PCIe Gen4x4 (64 Gb/s) mode\*\*
- 1 x Hyper M.2 Socket (M2\_2, Key M), supports type 2280 SATA3 6.0 Gb/s & PCIe Gen4 x4 (64 Gb/s) mode\*\*

\*\* Supports Intel® Optane™ Technology (M2\_2 only)

\*\* Supports Intel® Volume Management Device (VMD)

\*\* Supports NVMe SSD as boot disks

\*\* Supports ASRock U.2 Kit

## RAID

- Supports RAID 0, RAID 1, RAID 5 and RAID 10 for SATA storage devices

## Connector

- 1 x SPI TPM Header
- 1 x Chassis Intrusion and Speaker Header
- 1 x RGB LED Header

\* Supports in total up to 12V/3A, 36W LED Strip

- 3 x Addressable LED Headers

\* Support in total up to 5V/3A, 15W LED Strip

- 1 x CPU Fan Connector (4-pin)
- \* The CPU Fan Connector supports the CPU fan of maximum 1A (12W) fan power.
- 1 x CPU/Water Pump Fan Connector (4-pin) (Smart Fan Speed Control)

\* The CPU/Water Pump Fan supports the water cooler fan of maximum 2A (24W) fan power.

- 3 x Chassis/Water Pump Fan Connectors (4-pin) (Smart Fan Speed Control)

\* The Chassis/Water Pump Fan supports the water cooler fan of maximum 2A (24W) fan power.

\* CPU\_FAN2/WP, CHA\_FAN1~3/WP can auto detect if 3-pin or 4-pin fan is in use.

- 1 x 24 pin ATX Power Connector (Hi-Density Power Connector)
- 1 x 8 pin 12V Power Connector (Hi-Density Power Connector)

- 1 x Front Panel Audio Connector
- 2 x USB 2.0 Headers (Support 4 USB 2.0 ports) (Supports ESD Protection)
- 1 x USB 3.2 Gen1 Header (Supports 2 USB 3.2 Gen1 ports) (Supports ESD Protection)
- 1 x Front Panel Type C USB 3.2 Gen2x2 Header (20 Gb/s) (Supports ESD Protection)

#### **BIOS Feature**

- AMI UEFI Legal BIOS with multilingual GUI support
- ACPI 6.0 Compliant wake up events
- SMBIOS 2.7 Support
- CPU Core/Cache, CPU GT, DRAM, VDD\_IMC, VCCIN AUX, +1.05V PROC, +1.8V PROC, +0.82V PCH, +1.05V PCH Voltage Multi-adjustment

#### **Hardware Monitor**

- Fan Tachometer: CPU, CPU/Water Pump, Chassis/Water Pump Fans
- Quiet Fan (Auto adjust chassis fan speed by CPU temperature): CPU, CPU/Water Pump, Chassis/Water Pump Fans
- Fan Multi-Speed Control: CPU, CPU/Water Pump, Chassis/Water Pump Fans
- CASE OPEN detection
- Voltage monitoring: CPU Vcore, +1.05V\_PCH, DRAM, VCIN AUX, VCCSA, +1.05V PROC, +0.82V PCH, +12V, +5V, +3.3V

#### **OS**

- Microsoft® Windows® 10 64-bit / 11 64-bit

#### **Certifica- tions**

- FCC, CE
- ErP/EuP Ready (ErP/EuP ready power supply is required)

\* For detailed product information, please visit our website: <http://www.asrock.com>



Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.